

## A NEW SPECIES OF *SOLANUM* (SOLANACEAE) FROM MADAGASCAR

***Solanum mahoriensis*** D'Arcy & Rakotozafy, sp. nov. TYPE: Cultivated, Missouri Botanical Garden, *D'Arcy 15487a*. Seed from Madagascar. Antsiranana (Diego-Suarez): forest of Mahory, ca. 6 km S of Marataolana (ca. 12 km S of Anivorano Nord), 12°48'S, 49°14'E (holotype, MO; isotype, TAN, duplicates to be distributed).

Frutex ad 1 m altus, sparse pubescens pilis stellatis, spinis rectis nemio armatis. Folia lobata, armata, glabrata. Flores purpurei, staminibus angustis. Bacca viridis odorata, calyce accrescenti tecta.

Robust herb or shrub 1 m tall; branching from near the base, branches slender, arching, wand-like, to 1.5 m long, pubescent with occasional long-stalked often porrect, pauciradiate hairs that lack midpoints, copiously armed with acicular, sometimes flattened, straight, retrorse spines to 12 mm long, these often with a terminal stellate hair or with one or more hairs near the base. Leaves obovate, to 25 cm long, 16 cm wide, basally dimidiate, 1–3-pinnately lobed, with ca. 4 major lobes on each side, lobed three-fourths way to the midrib, on aged leaves lobed three-fourths way to the midrib, the sinuses rounded to slightly angular, the lobes apically obtuse or acute; major veins drying elevated and darker beneath, the costa and major lateral veins bearing numerous spines as those on the stem, the lamina glabrate above but with sparse short-stalked multangulate hairs beneath, the margin and veins with copious stellate hairs; petiole slender, 10–35 mm long, stellate pubescent and sparingly armed. Inflorescences short racemes inserted near top of internodes, the peduncle slender, 8 mm long, stellate-pubescent and with numerous small straight spines, the pedicels 8–10, ca. 7 mm long, resembling the peduncle but with smaller spines. Flowers heterostylous, calyx cupular, basally colored with copious short reddish brown, dark-based spines and reddish brown stellate hairs, whitish distally with stellate hairs, the tube cupular, 7–8 mm long (3–4 mm long in short-styled flowers), whitish mauve, the lobes subulate, 10 mm long (4 mm long in short-styled flowers), the apical one-half or one-third green; corolla mauve, darker at the center and drying with fainter tips, the lobes darker with the costa elevated and darker, the sinuses rounded to

slightly angulate, the lobes ca. 10 mm long (8 mm long in short-styled flowers), glabrous within, stellate-pubescent outside except on the sinuses where puberulent with reduced simple trichomes; stamens 5, equal, the anthers yellow, subsessile, narrow, 8 mm long (4.5 mm in short-styled flowers), the terminal pores minute, the filaments purplish as the corolla, 0.5 mm long, glabrous; ovary white, ovoid, 2 mm long, the apical half glandular with minute, gland-tipped, simple hairs, the styles white, ca. 18 mm long, overtopping with stamens and apically recurved (those of the short-styled flowers rudimentary with stigmas not differentiated), with a few greatly reduced simple, gland-tipped hairs and occasional branched hairs on the basal portion, stigma subglobose, dark green. Fruit usually one per inflorescence, pendant, a perfumed globose berry, (2–)3 cm across, 2-locular, loosely enveloped by the accrescent bladder-like calyx, the calyx 4 cm across, 4 cm long, proximally sulcate at the major veins, whitish, copiously armed with acicular spines; pedicel 15 mm long, 2 mm thick; seeds numerous, stramineous, compressed, 4 mm long.

*Solanum mahoriensis* is a member of *Solanum* subg. *Leptostemonum* (Dun.) Bitt., which includes spiny species with slender anthers. Its probable sectional placement is unclear.

The heterostyly in this species resembles that well known in many other species of subg. *Leptostemonum*: the first flowers have long styles and bear fruit, the later short-styled flowers have greatly reduced ovaries and do not bear fruit. Anthers of both types of flower are polleniferous.

The spiny lobed leaves and inflated fruit-enveloping calyx of *Solanum mahoriensis* are strongly reminiscent of *Solanum sisymbriifolium* Lam. of South America, but that species has a white flower, a smaller, scarlet fruit, and a less spreading growth habit. The fruit of this species remains green, and it has a strong perfume-like scent, an unusual condition for berries in the Solanaceae. However, the cut surface of the juicy berry has a tomato-like odor. The fruiting calyx is truly echinoid—resembling nothing more than a spiny sea urchin—and when old, the dark reddish brown spines contrast with the nearly white calyx walls. To judge from a reduction in pu-



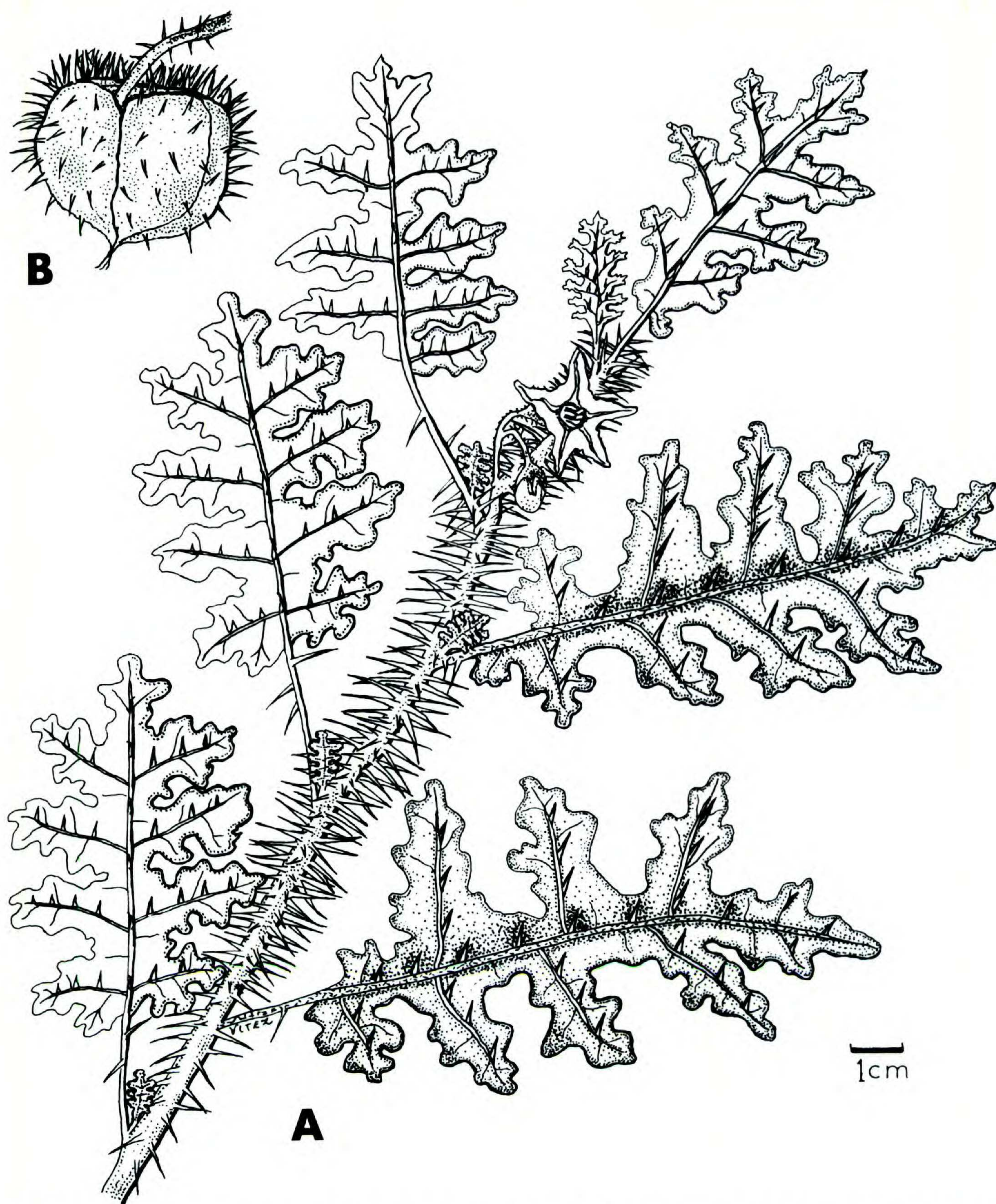


FIGURE 1. *Solanum mahoriensis* D'Arcy & Rakotozafy. —A. Habit. —B. Fruit. [After *D'Arcy 16045* (MO).]

bescence in the apical portion of the pedicel, the elongation of the pedicel in fruit may be confined to this apical region.

*Solanum mahoriensis* was found on level ground under a 60% canopy in the "Foret de Mahory," a wooded area ca. 6 km S of the village

of Marataolana which is ca. 12 km S of Anivorano Nord. This locality (12°48'S, 49°14'E) is tropical, in the extreme north of the island, far from the temperate climates of southern Madagascar where the unusual endemic solanums of sect. *Croatii* D'Arcy occur.



*Specimens examined.* MADAGASCAR. ANTISRANANA: vestige forestière, sur basaltes, près de Marovato au N de l'Ankarana, 9/11/66, *Capuron 24561-SF* (MSF, P, TEF); forêt de Mahory, 6 km S of Marotaolana, ca. 12 km S of Anivorano Nord, *D'Arcy 15487* (MO, P, TAN); collines et plateaux calcaires de l'Ankarana, forêt tropophile, 300 m, *Humbert 18936* (MSF, P).

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